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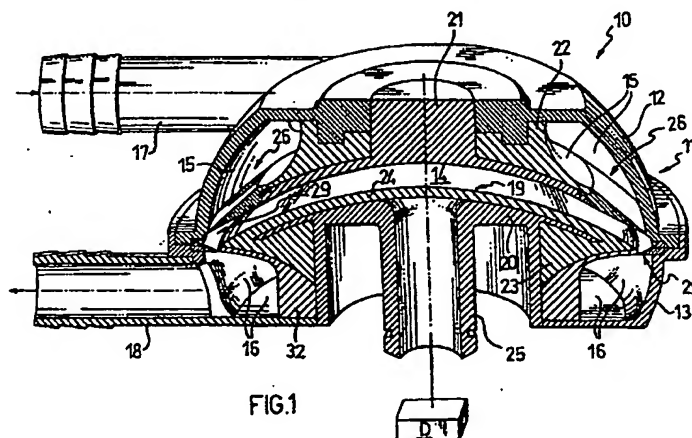
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(54) **A device for the pulsed pumping of liquids, particularly blood**

(57) A device for the pulsed pumping of liquids, particularly blood, has a body in which are formed a pumping chamber in which a pulsed flow is imparted to the liquid, an inlet duct upstream of the pumping chamber and communicating therewith, and a delivery duct downstream of the pumping chamber and communicating therewith. Two valve members constituted by lip valves are provided for regulating the one-way flow of fluid in the body from the inlet duct to the pumping

chamber and from the latter to the delivery duct. Low levels of hemolysis can be achieved, if the device is pumping blood. Moreover, the device has a low production cost and is quiet. The pumping device may be incorporated into a cardiopulmonary bypass device which includes a venous reservoir, a heat exchanger and an oxygenator.



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# EUROPEAN SEARCH REPORT

Application Number  
EP 96 20 0240

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	WO 89 10763 A (NIMBUS MED. INC.) * page 4, line 30 - page 5, line 28 * * figures 2-4 *	1-8,11, 13,14	A61M1/10
Y	---	15,17-19	
X	GB 2 101 232 A (CORDIS DOW CORPORATION) * page 2, line 102 - page 3, line 1 * * page 3, line 62 - line 85 *	1-4,7, 13,14	
Y	---	15,17-19	
Y	US 3 298 320 A (A LATHAM) * column 1, line 9 - line 53 * * column 4, line 47 - line 70 * * figures *	15,17-19	TECHNICAL FIELDS SEARCHED (Int.Cl.6)  A61M
X	US 4 573 883 A (BAYLOR COLLEGE OF MEDICINE) * column 2, line 24 - line 49 * * column 3, line 3 - line 40 * * figure 1 * -----	1-8,15, 17-19,21	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 22 July 1997	Examiner Vereecke, A
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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